

Citation:

Ford PB, Dzewaltowski DA. Disparities in obesity prevalence due to variation in the retail food environment: three testable hypotheses. *Nutr Rev*. 2008;66(4):216-28.

PubMed ID: [18366535](#)

Study Design:

Narrative review

Class:

M - [Click here](#) for explanation of classification scheme.

Research Design and Implementation Rating:

NEUTRAL: See Research Design and Implementation Criteria Checklist below.

Research Purpose:

This paper reviews the literature on retail food environments in the United States and proposes interrelated hypotheses that geographic, racial, ethnic, and socioeconomic disparities in obesity within the United States are the result of disparities in the retail food environment.

Inclusion Criteria:

- Conducted in the United States.
- Included a characterization of the retail food environment.

Exclusion Criteria:

None listed

Description of Study Protocol:**Recruitment**

- A PubMed search using search terms "food environment", "nutrition environment", "food access", "food availability", and "obesity".
- Studies found through the electronic search were supplemented with others that were brought to our attention through the literature review.

Design

- Narrative review with studies grouped under one of three proposed hypotheses:
- Geographic differences in the access and availability of foods result in disparities in the retail food environment.
- Neighborhoods of low socioeconomic status with high concentrations of racial/ethnic

minorities have limited accessibility and availability of healthy foods.

- Individuals exposed to poor-quality retail food environments are more likely to have diets that include foods of low nutritional quality and high caloric density, and higher rates of obesity, as compared to individuals exposed to high-quality food environments.

Blinding used N/A

Intervention N/A

Statistical Analysis N/A

Data Collection Summary:

Timing of Measurements

- Studies conducted during the period of 1992-2007.

Dependent Variables

- None, but included in proposed hypotheses: geographic, racial, ethnic and socioeconomic disparities in obesity.

Independent Variables

- None, but included in the proposed hypotheses: disparities in the retail food environment.

Control Variables

N/A

Description of Actual Data Sample:

Initial N: unclear

Attrition (final N): 13 studies

Age: N/A

Ethnicity: N/A

Other relevant demographics:

- Six studies employed an ecological research design.
- Four studies used a cross-sectional approach.
- Three studies were multilevel.

Anthropometrics N/A

Location: varied with included studies

Summary of Results:

Key Findings:

Hypothesis 1 Geographic differences in the access and availability of foods result in disparities in the retail food environment

- Of the four studies identified in this review, there is relatively consistent evidence that the quality of the retail food environment (as measured by access and availability of healthy foods) varies geographically, and that low-quality food environments are associated with neighborhood deprivation.

Hypothesis 2 Neighborhoods of low socioeconomic status with high concentrations of racial/ethnic minorities have limited accessibility and availability of healthy foods (poor-quality retail food environment)

- Whether using objective approaches that measure the specific foods available or proxy measures looking solely at food-store type, there is an association in which socioeconomically disadvantaged neighborhoods with high proportions of racial and ethnic minorities have poorer quality retail food environments, as measured by access to and availability of healthy foods, compared to more affluent areas with comparatively small populations of ethnic and racial minorities.
- Limitations include that eating behaviors are influenced by a multitude of environmental factors operating at different levels of organization; these are mediated by psychosocial, demographic, and sociocultural factors that operate at the individual level.

Hypothesis 3 Individuals exposed to poor-quality retail food environments are more likely to have diets that include foods of low nutritional quality and high caloric density, and higher rates of obesity, as compared to individuals exposed to high-quality food environments.

- The results suggest that, at least within an urban context, the ability to shop in grocery stores in neighboring, more affluent neighborhoods potentially mitigates the impact of residing in a disadvantaged neighborhood.
- The importance of shopping behavior contributes to difficulties in utilizing local retail food environment as a single exposure variable.
- The determination of causality is limited by lack of temporal information, and reliance on food store type (while mediated by the integration of store location by area-level SES) as an indirect measure may have resulted in some misclassification of food environments.
- Life-course SES exposures were not taken into consideration.

Author Conclusion:

The findings of this literature review suggest that poor-quality retail food environments in disadvantaged areas, in conjunction with limited individual economic resources, contribute to increased risk of obesity within racial and ethnic minorities and socioeconomically disadvantaged populations.

Reviewer Comments:

As this is a review paper, it may be worthwhile to evaluate the studies included within this narrative review.

Research Design and Implementation Criteria Checklist: Review Articles

Relevance Questions

1.	Will the answer if true, have a direct bearing on the health of patients?	Yes
2.	Is the outcome or topic something that patients/clients/population groups would care about?	Yes
3.	Is the problem addressed in the review one that is relevant to nutrition or dietetics practice?	Yes
4.	Will the information, if true, require a change in practice?	???

Validity Questions

1.	Was the question for the review clearly focused and appropriate?	Yes
2.	Was the search strategy used to locate relevant studies comprehensive? Were the databases searched and the search terms used described?	Yes
3.	Were explicit methods used to select studies to include in the review? Were inclusion/exclusion criteria specified and appropriate? Were selection methods unbiased?	Yes
4.	Was there an appraisal of the quality and validity of studies included in the review? Were appraisal methods specified, appropriate, and reproducible?	No
5.	Were specific treatments/interventions/exposures described? Were treatments similar enough to be combined?	Yes
6.	Was the outcome of interest clearly indicated? Were other potential harms and benefits considered?	Yes
7.	Were processes for data abstraction, synthesis, and analysis described? Were they applied consistently across studies and groups? Was there appropriate use of qualitative and/or quantitative synthesis? Was variation in findings among studies analyzed? Were heterogeneity issues considered? If data from studies were aggregated for meta-analysis, was the procedure described?	No
8.	Are the results clearly presented in narrative and/or quantitative terms? If summary statistics are used, are levels of significance and/or confidence intervals included?	Yes
9.	Are conclusions supported by results with biases and limitations taken into consideration? Are limitations of the review identified and discussed?	Yes
10.	Was bias due to the review's funding or sponsorship unlikely?	Yes

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